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W. F. JACOBS.

HAY RACK FIXTURE.

APPLICATION FILED JAN. 16, 1905.

Fig. 1

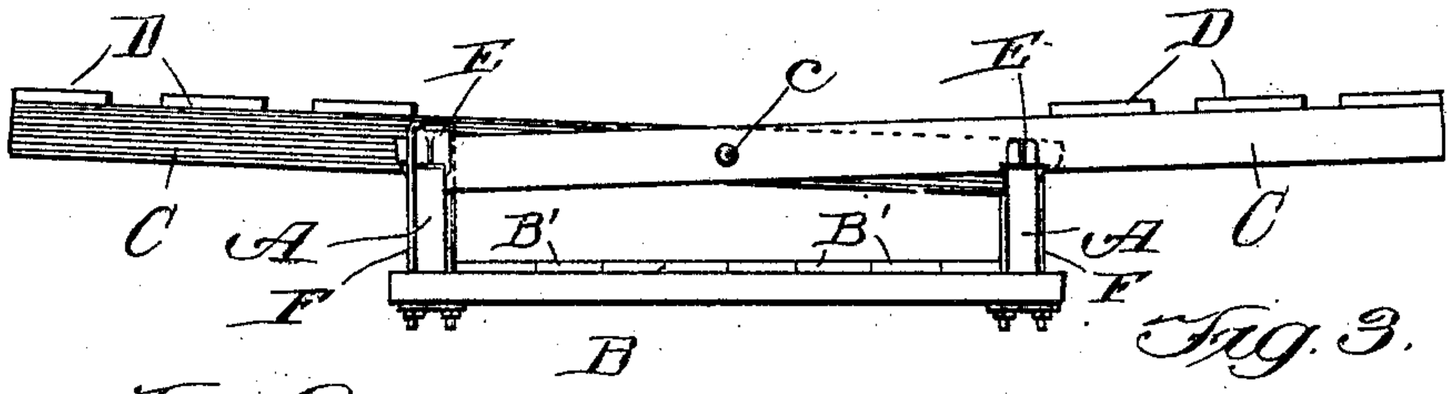
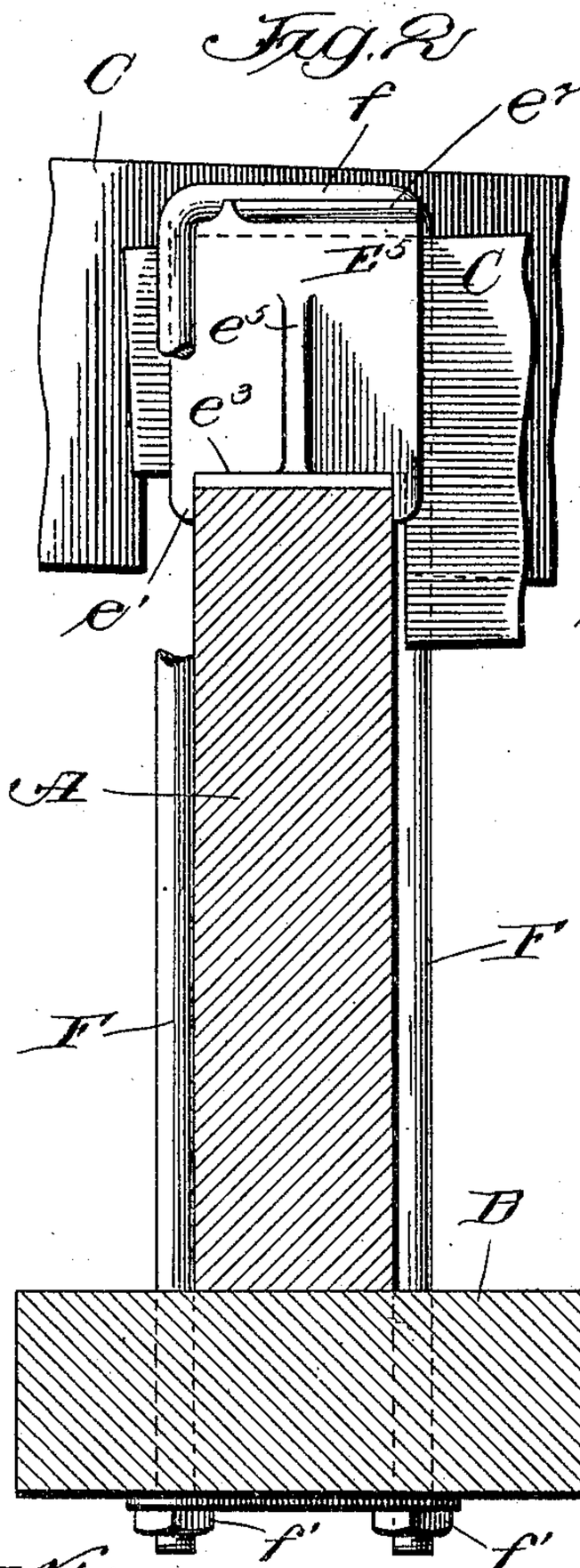


Fig. 3.

Fig. 2



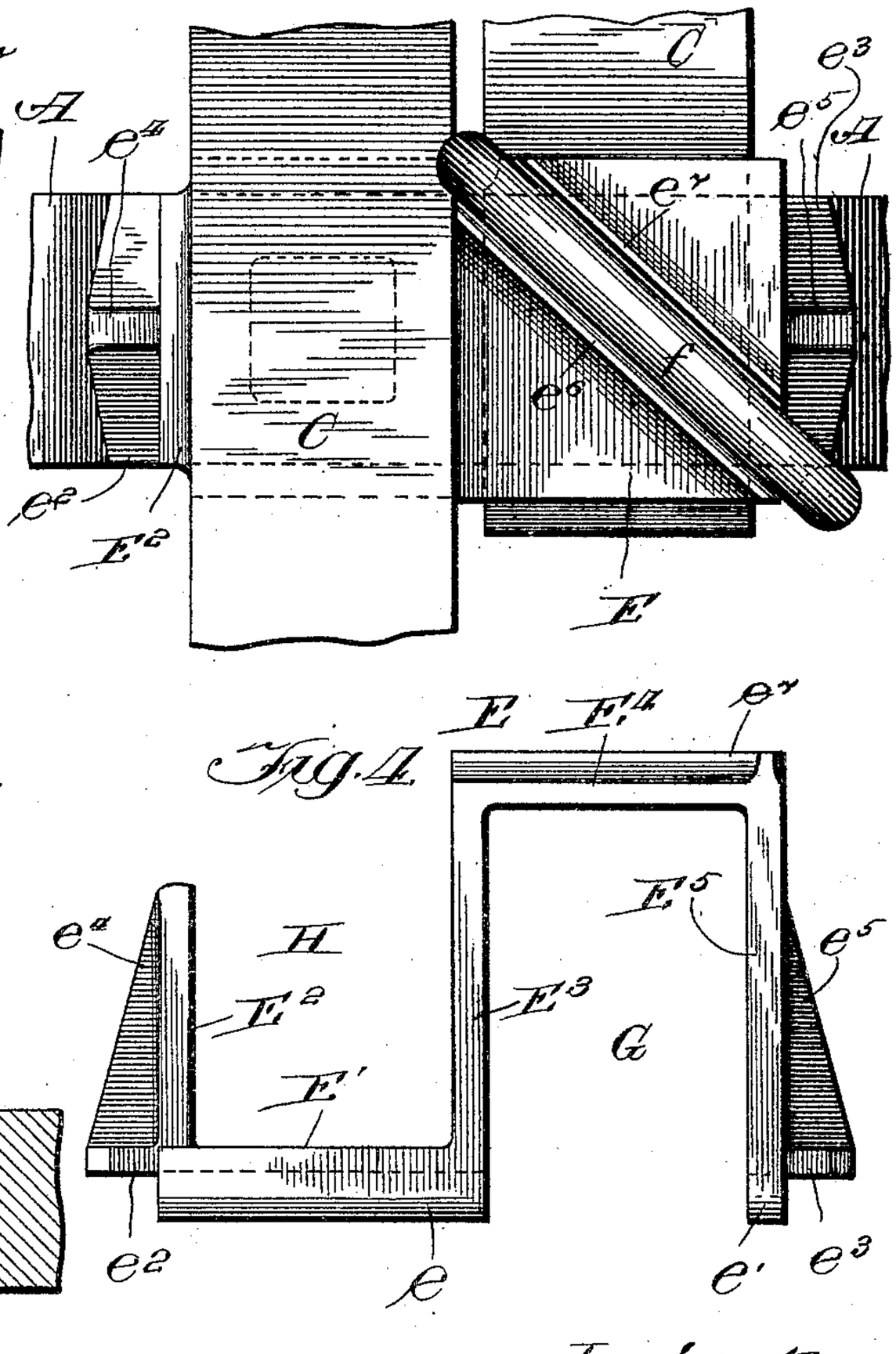


Fig. 4.

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HAY-RACK FIXTURE.

No. 799,384. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed January 16, 1905. Serial No. 241,324.

To all whom it may concern:

Be it known that I, WILLIAM F. JACOBS, a citizen of the United States, and a resident of Ottawa, in the county of Lasalle and State of Illinois, have invented certain new and useful Improvements in Hay-Rack Fixtures; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel hay-rack fixture, the same being in the nature of a device for securing the transverse bars or members which support the wings or side platforms of a hay-rack to the main longitudinal members or side pieces of the rack.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is an end view of a hay-rack equipped with metal fixtures embodying my invention. Fig. 2 is a vertical cross-section through one of the main longitudinal side members of the hay-rack, showing in end view one of the fixtures in position for use. Fig. 3 is a plan view of the parts shown in Fig. 2. Fig. 4 is a side view of the fixtures separated from the other parts.

As shown in the drawings, A A indicate two main longitudinal side pieces of a hay-rack which are connected with each other by transverse pieces extending below the main side pieces and secured thereto at their ends, one of said cross-pieces being indicated by B in Fig. 1.

B′ B′ indicate longitudinal strips or boards which may be placed on the cross-pieces B between the longitudinal side pieces A A to form the bottom of the main part or body of the rack.

C C indicate the transverse bars or members which support the wings or side platforms of the hay-rack and which are supported upon the upper margins of the two main longitudinal side pieces A A. Longitudinal boards or strips D D are attached to the parts of the bars C C outside of the side pieces A A and constitute, with the outer portions of said bars, the wings or side platforms above referred to. Said bars C C are arranged in pairs, the two bars constituting each pair being overlapped at their inner ends and arranged in contact with each other. Each bar C is engaged at its inner end with one of the side pieces and rests on the other side piece, from or outside of which it projects.

E indicates as a whole one of the metal fixtures to which my invention relates. Said fixture is adapted for attachment to the upper margin of the longitudinal side piece A of the rack and is shaped to form a socket G, Fig. 4, which opens laterally with respect to the side piece A, to which the fixture is attached, and adjacent to said socket with an upwardly-opening recess or notch H, extending transversely of the said side piece. The said socket G is closed at its top and adapted to receive the inner end of one of the bars of a pair of said bars C, and the notch H is open at its top and is adapted to receive the part of the other bar of the pair which extends over the top of the main longitudinal piece A, to which the fixture is secured. Each fixture E is secured to the longitudinal piece A by means of a U-shaped bolt or clip F, the central or connecting part *f* of which extends diagonally across the top of the fixture and the parallel arms of which extend downwardly at either side of the said side piece and are inserted at their lower ends through the cross-piece B. The wide pieces or arms of the said U-shaped bolt are provided with nuts *f′ f′* below said cross-piece. The clip thus arranged serves to rigidly secure the ends of the cross-piece B to the side piece A and at the same time to hold or clamp the fixture E firmly upon the upper edge of the said side piece.

As shown in the accompanying drawings and as preferably constructed, the fixture E is adapted to form the socket G and the open notch H by being shaped as follows: Said fixture is provided with a flat horizontal base-plate E′, adapted to rest upon the top of the side piece A and having lateral depending flanges *e e* arranged to extend downwardly over or embrace the inner and outer vertical faces of the side piece. At its outer end the plate E′ has attached to it an upwardly-extending transverse plate E^2, which forms the outer wall of the open notch H. The inner wall of said notch is formed by a like transverse vertical plate E^3, which also forms the inner side wall of the socket G. To the top margin of the plate E^3 is attached a horizontal top plate E^4, provided with a vertical plate

E^5, forming the outer vertical wall of the socket. At its lower margin the plate E^5 terminates in the same horizontal plane with the bottom of the plate E', so that the base-plate E' and the lower edge of the plate E^5 may be seated on the top surface of the side piece A. At the side margins of the plate E^5 the latter is provided with two depending lugs or projections e' e', arranged in alinement with said flanges e e on the plate E' and adapted to extend at opposite sides of or embrace the upper margin of the said side piece A. The base-plate E' is extended to form a horizontal flange e^2, extending outwardly from the lower margin of the plate E^2, while the outer plate E^5 of the socket is provided with a correspondingly-located outwardly-extending horizontal flange e^3. Said flanges e^2 and e^3 are adapted to rest upon the top surface of the longitudinal side piece A and serve to provide on the bottom or base of the fixture bearing-surfaces of considerable length or area for contact with the said side piece. When the fixture is made of a single piece of cast metal, as shown in the accompanying drawings, vertical ribs or stiffening-flanges e^4 e^5 will preferably be provided at the outer face of the plates E^2 E^5, made integral with the said plates and with the flanges e^2 e^3.

The central or loop portion f of the clip F extends diagonally over or across the top plate E^4, and in order to provide means by which the same will be held from moving or shifting on the said top plate the latter is provided with two oblique parallel elevated ribs or flanges e^6 e^7, forming a groove or seat to receive the said top member f of the clip.

The part of the fixture which forms the socket G is shown in the drawings as being open at the bottom of said socket, so that the top surface of the side piece A when the fixture is in place thereon constitutes the bottom wall of the said socket. This combination is employed to facilitate the casting of the fixture when it is made of cast-iron and lessen the quantity of metal used. The absence of any bottom wall to the socket will not ordinarily affect the function of the fixture as a means of securing the bar C to the side piece A, because when the hay-rack is in use the end of the bar C which is engaged with the fixture presses upwardly on the top plate of the socket, which receives practically all of the strain and wear due to the weight of the load on the wing or platform supported by the said bar C. If desired, however, the bottom of the socket may be closed by an extension of the bottom wall E', as shown in dotted lines in Fig. 4.

In the use of the fixture described the same will be arranged on the longitudinal side pieces A of the rack, with the fixtures of each pair opposite each other, and the bars C C, which support the side platforms or wings of the rack, will then be engaged with the fixtures, the part of each bar which extends over the side piece below it resting in the open notch between the plates E^2 E^3, while the inner end or extremity of said bars C will be inserted within the socket formed between the plates E^3 E^5, the top of which is formed by the top wall E^4 of the fixture. The bars C C of each pair will preferably be inclined in opposite directions, the outer end of each bar elevated above its inner end, and in order that the bars may be supported or held in such inclined position the inner ends of the bars will usually be notched at their lower edges to form tenons adapted to enter the sockets. The intermediate parts of the bars may merely rest in the open notches of the fixtures; but, if preferred, said bars may be notched at their lower edges where they engage the bottom walls E' of the fixtures, as is the case in the construction shown in the accompanying drawings. The shoulders on the bars formed by the notches described serve to prevent endwise movement of the said bars relatively to the fixtures. Preferably, however, the bars constituting each pair of bars will be joined or secured together where they overlap or cross each other by a bolt c, which bolt will hold the bars positively either from being lifted out of the open notches or moved endwise to disengage their inner ends from the sockets. When the bars are thus bolted together, they will be held positively in engagement with the fixtures even when unprovided with the notches at their lower edges where they engage the notches of the fixtures.

By the use of the fixtures described for connecting the supporting cross-bars of the wings or lateral extensions of the rack with the body thereof in the manner described the wings may be readily and quickly disconnected from the body part of the rack or replaced thereon, thereby enabling the wings to be removed when desired by the user and the body of the rack used as a wagon-body. This is of great advantage, because as compared with racks as heretofore constructed, in which the supporting-bars of the extensions or wings are permanently secured to the longitudinal members of the body of the rack, for the reason that in such old construction when the wagon is to be used without the hay-rack it becomes necessary to lift the entire rack from the wagon and replace it by an ordinary wagon body or box, whereas, in the construction described, the body of the rack may itself be used as a body or box and the lateral extensions or platforms easily and quickly removed therefrom. This is a matter of considerable importance to users, because one man can easily handle the side platforms in removing them from and placing them upon the body of the rack, whereas in cases where the side platforms are permanently connected with the body of the rack, making it necessary to remove the entire rack from the wagon, the

weight of the rack is so great that it cannot be handled by one man, and the lifting of the rack from and its replacement upon the wagon are operations requiring considerable trouble and exertion.

I claim as my invention—

1. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars and at one side of said socket with an upwardly-opening notch to receive the other of said bars, and means for securing the said fixture to the longitudinal member.

2. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars and at one side of the said socket with an upwardly-opening notch to receive the other of said bars, said fixture having parallel depending flanges for engagement with the side faces of said longitudinal member.

3. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars, and at one side of said socket with an upwardly-opening notch to receive the other of said bars, and a clip for securing the fixture to the longitudinal member having a part which extends diagonally across the top of the socket portion of the fixture.

4. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars and an upwardly-opening notch to receive the other of said bars, said fixture embracing a horizontal base-plate adapted to rest upon the top of the longitudinal member, three upright plates and a horizontal top plate attached to two of the upright plates and forming with the latter the said socket.

5. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars and with an upwardly-opening notch to receive the other of said bars, said fixture consisting of a horizontal bottom plate adapted to rest on the longitudinal member, three upright plates two of which rise from the bottom plate to form said notch, and a horizontal top plate connected with two of said upright plates and forming therewith the said socket.

6. As a means for attaching to a longitudinal member, two transverse bars, a metal fixture provided with a socket to receive one of said bars and at one side of said socket with an upwardly-opening notch to receive the other of said bars and having on the top wall of its socket portion an oblique seat for a clip.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 12th day of January, A. D. 1905.

WILLIAM F. JACOBS.

Witnesses:

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B. S. JORDAN.